

## WHAT IS CLAIMED IS:

1. An ultrasound probe which is shielded from electronic emissions comprising:

5 an ultrasonic transducer located in a fluid chamber;

a movable mechanism on which the transducer is mounted for scanning of the transducer;

10 an acoustic window enclosing the fluid chamber through which ultrasonic energy is transmitted or received; and

a conductive layer lining the acoustic window which is coupled to a reference potential.

15 2. The ultrasound probe of Claim 1, wherein the conductive layer is located on the inner surface of the acoustic window.

20 3. The ultrasound probe of Claim 1, wherein the conductive layer is embedded in the acoustic window.

4. The ultrasound probe of Claim 1, wherein the acoustic window comprises a dome-shaped cap.

25 5. The ultrasound probe of Claim 1, wherein the acoustic window comprises a relatively flat contact lens-shaped cap.

30 6. The ultrasound probe of Claim 4, wherein the ultrasonic transducer comprises a curved array transducer which is oscillated to scan a volumetric region.

35 7. The ultrasound probe of Claim 1, wherein

the conductive layer is made of gold, a titanium/gold alloy, or aluminum.

5           8.   The ultrasound probe of Claim 1, wherein  
the conductive layer is formed on the acoustic window  
by vacuum deposition processes such as sputtering,  
vacuum evaporation, physical vapor deposition, arc  
vapor deposition, ion plating or laminating.

10          9.   The ultrasound probe of Claim 1, wherein  
the conductive layer is coupled to a reference  
potential by conductive epoxy, solder connection,  
clamped pressure creating a metal-to-metal contact,  
conductive gaskets or O-rings, or discrete drain  
15         wires.

20          10.   The ultrasound probe of Claim 1, wherein  
the conductive layer comprises a continuous layer of  
conducting material.

25          11.   The ultrasound probe of Claim 1, wherein  
the conductive layer comprises a porous layer of  
conducting material.

30          12.   The ultrasound probe of Claim 11, wherein  
the porous layer comprises a grid-like screen of  
conducting material.

35          13.   The ultrasound probe of Claim 1, wherein  
the conductive layer is thin enough to be highly  
transmissive of ultrasound at a frequency of the  
transducer.

40          14.   The ultrasound probe of Claim 13, wherein  
the conductive layer exhibits a thickness of 1/16 of

a wavelength or less of the frequency of the transducer.

15. The ultrasound probe of Claim 13, wherein  
5 the conductive layer exhibits a thickness in the range of 1000-3000 Angstroms.